WHAT IS CLAIMED IS:

20

An organic electroluminescent device comprising:
 a pair of electrodes; and

at lest one organic layer provided between the pair of electrodes, at least one of the at lest one organic layer being a light emitting layer,

wherein the light-emitting layer comprises a compound represented by the formula (I):

$$\begin{bmatrix} \begin{pmatrix} Y^{11} = N & & & & \\ Y^{12} & & & & & \\ Y^{13} = N & & & & \\ Y^{13} = N & & & & \\ & & & & & \\ & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & & \\ & &$$

wherein R^{11} and R^{12} each represent a hydrogen atom or a substituent; Y^{11} , Y^{12} , and Y^{13} each represent a substituted or unsubstituted carbon atom, a substituted or unsubstituted nitrogen atom, an oxygen atom or a sulfur atom; M^{11} represents a transition metal ion; L^{11} represents a ligand; X^{11} represents a counter ion; n^{11} represents an integer of 1 to 3; n^{12} represents an integer of 0 to 4; and n^{13} represents an integer of 0 to 4; with proviso that a compound in which R^{11} and R^{12} are connected together to form a porphyrin ring is excluded.

2. The organic electroluminescent device of claim 1, wherein the compound represented by the formula (I) is a compound represented by the formula (II):

$$M^{21}$$
 M^{21} M^{21} M^{22} M^{21} M^{22} M^{21} M^{22} M^{21} M^{21} M^{22} M^{21}

wherein Q^{21} and Q^{22} each represent a group necessary to form a nitrogen-containing heterocyclic ring; Y^{22} represents a nitrogen atom or a substituted or unsubstituted carbon atom; M^{21} represents a transition metal ion; L^{21} represents a ligand; n^{21} represents an integer of 1 to 3; and n^{22} represents an integer of 0 to 4.

15

3. The organic electroluminescent device of claim 1, wherein the compound represented by the formula (I) is a compound represented by the formula (III):

$$Q^{31}$$
 N^{32}
 N^{31}
 Q^{32}
 N^{31}
 N^{31}
 N^{32}
 N^{31}
 N^{31}
 N^{32}
 N^{31}
 N^{31}
 N^{32}
 N^{31}
 N^{31}
 N^{31}

wherein Q^{31} and Q^{32} each represent a group necessary to form a nitrogen-containing heterocyclic ring; Y^{32} , Y^{34} , and Y^{35} each 10 represent a nitrogen atom or a substituted or unsubstituted carbon atom; M^{31} represents a transition metal ion; L^{31} represents a ligand; n^{31} represents an integer of 1 to 3; and n^{32} represents an integer of 0 to 4.

4. The organic electroluminescent device of claim 2, wherein the compound represented by the formula (II) is a compound represented by the formula (IV):

$$R^{41}$$
 R^{42}
 R^{43}
 R^{43}
 R^{43}
 R^{43}
 R^{43}
 R^{44}
 R^{43}
 R^{43}
 R^{44}
 R^{45}
 R^{45}

wherein R^{41} , R^{42} , R^{43} , R^{44} , and R^{45} each represent a hydrogen atom or a substituent; Y^{47} and Y^{48} each represent an oxygen atom, a sulfur atom, a quaternary carbon atom or a substituted or unsubstituted nitrogen atom; Q^{41} represents a group necessary to form an aromatic ring; Q^{42} represents a group necessary to form a nitrogen-containing heterocyclic ring; n^{41} and n^{42} each represent 1 or 2; and n^{41} represents a transition metal ion.

5. The organic electroluminescent device of claim 3,

10 wherein the compound represented by the formula (III) is a

compound represented by the formula (V):

wherein R^{51} , R^{52} , R^{53} , R^{54} , R^{55} , R^{56} , and R^{57} each represent a hydrogen atom or a substituent; Q^{51} represents a group necessary to form an aromatic ring; Q^{52} represents a group necessary to form a nitrogen-containing heterocyclic ring; n^{51} and n^{52} each represent 1 or 2; and m^{51} represents a transition metal ion.

6. The organic electroluminescent device of claim 5, wherein the compound represented by the formula (V) is a compound represented by the formula (VI):

$$(R^{62})n^{62}$$
 $(R^{64})n^{64}$
 (VI)
 $(R^{63})n^{63}$

wherein Y^{67} and Y^{68} each represent an oxygen atom, a sulfur atom, a quaternary carbon atom or a substituted or unsubstituted nitrogen atom; R^{61} , R^{62} , R^{63} , R^{64} , and R^{65} each represent a substituent; and n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 to 4.

- 7. The organic electroluminescent device of claim 6, wherein n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 to 2.
- 8. The organic electroluminescent device of claim 6, wherein n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 or

1.

9. The organic electroluminescent device of claim 6, wherein n^{62} , n^{63} , n^{64} , and n^{65} each represent 0.

5

- 10. The organic electroluminescent device of claim 1, wherein \mathbf{M}^{11} represents an iridium ion, a platinum ion, a rhenium ion or a ruthenium ion.
- 11. The organic electroluminescent device of claim 4, wherein M^{11} represents an iridium ion, a platinum ion, a rhenium ion or a ruthenium ion.
- 12. The organic electroluminescent device of claim 5, wherein \mathbf{M}^{11} represents an iridium ion, a platinum ion, a rhenium ion or a ruthenium ion.
 - 13. The organic electroluminescent device of claim 1, wherein \mathbf{n}^{11} represents 1 or 2.

- 14. The organic electroluminescent device of claim 1, wherein n^{12} represents an integer of 0 to 2.
- 15. The organic electroluminescent device of claim 1,
 25 wherein \mathbf{n}^{13} represents 0 or 1.

- $16. \ \ \, \text{The organic electroluminescent device of claim 1,} \\$ wherein n^{13} represents 0.
- 17. A compound represented by the formula (VI):

$$(R^{62})n^{62}$$
 $(R^{64})n^{64}$
 (VI)
 $(R^{65})n^{65}$
 $(R^{65})n^{65}$

wherein Y⁶⁷ and Y⁶⁸ each represent an oxygen atom, a sulfur atom, a quaternary carbon atom or a substituted or unsubstituted nitrogen atom; R^{61} , R^{62} , R^{63} , R^{64} , and R^{65} each represent a substituent; and n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 to 4.

20

- 18. The compound of claim 17, wherein n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 to 2.
- 19. The compound of claim 17, wherein n^{62} , n^{63} , n^{64} , and n^{65} each represent an integer of 0 or 1.

20. The compound of claim 17, wherein $n^{62},\ n^{63},\ n^{64},$ and n^{65} each represent 0.